

## 1     ABSTRACT

2                 Methods of and systems for measuring at least one physiological parameter  
3     for assessing a patient's cardiac condition based on left heart impedance  
4     measurements are described. Various embodiments establish a current flow  
5     through a left side of the heart and measure a voltage between a first location on or  
6     in the left side of the heart and a second location within the human body while  
7     establishing the current flow. The inventive techniques and systems can be used  
8     for, among other things, measuring progression or regression of myocardial  
9     failure, dilation, or hypertrophy, pulmonary congestion, myocardial contractility,  
10    or ejection fraction. The measured voltage, related to left heart impedance, can be  
11    used to monitor patient condition for diagnostic purposes or to adapt pacing or  
12    defibrillation therapy. Therapy adaptation can include controlling pacing modes,  
13    pacing rates, or interchamber pacing delays, for example.